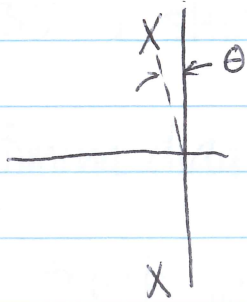


John McNeil  
GREAT QUESTION!

4/30/15

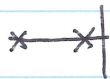


is  $\theta$  = phase margin?

Modify phase\_margins\_3 code to calculate angle

pole angle  $\theta$

$\phi_M$



90

89.9

90

80.2

← break from real axis



54

70.1

~~37.8~~

37.7

60

28.6

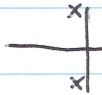
50

21.7

40

15.5

30



10

20

}  $\phi_M \approx 2 \times \text{pole angle}$